WHAT IS CLAIMED IS:

- 1. A purified kinase which phosphorylates $I\kappa B\alpha$ at serine residues 32 and 36, the kinase being a complex of approximately 700 kDa molecular weight as determined by gel filtration chromatography or size exclusion chromatography.
- 2. The kinase according to claim 1, wherein the kinase is purified by chromatographic purification of cell extracts.
- 3. The kinase according to claim 2, wherein the extracts are cell cytoplasmic extracts.
- 4. The kinase according to claim 2, wherein the chromatographic purification comprises ion-exchange chromatography and size exclusion chromatography.
- 5. A method for identifying an agonist for the activity of a kinase which phosphorylates IκBα at serine residues 32 and 36, the method comprising:
- (a) contacting a sample comprising a purified kinase which phosphorylates IκBα at serine residues 32 and 36, the kinase being a complex of approximately 700 kDa molecular weight as determined by gel filtration chromatography or size exclusion chromatography, IκBα, and a test substance under conditions in which the kinase phosphorylates IκBα; and
- (b) measuring the phosphorylation of $I\kappa B\alpha$, wherein an increase in the amount of phosphorylation of $I\kappa B\alpha$ in the presence of the test substance compared to the phosphorylation in the absence of the test substance indicates that the test substance is an agonist of the kinase.
- 6. A method for identifying an antagonist for the activity of a kinase which phosphorylates $I\kappa B\alpha$ at serine residues 32 and 36, the method comprising:
- (a) contacting a sample comprising a purified kinase which phosphorylates IκBα at serine residues 32 and 36, the kinase being a complex of approximately 700 kDa

molecular weight as determined by gel filtration chromatography or size exclusion chromatography, $I\kappa B\alpha$, and a test substance under conditions in which the kinase phosphorylates $I\kappa B\alpha$; and

(b) measuring the phosphorylation of $I\kappa B\alpha$, wherein a decrease in the amount of phosphorylation of $I\kappa B\alpha$ in the presence of the test substance compared to the phosphorylation in the absence of the test substance indicates that the test substance is an antagonist of the kinase.